

CLAIMS

What is claimed is:

- 1 1. A method for gathering data from memory of a
2 computer system, comprising the steps of:
3 following a plurality of memory element
4 descriptors of a machine readable record list to
5 locate data in the memory of the computer system,
6 where each memory descriptor is descriptive of data to
7 be retrieved from memory of the computer system;
8 gathering data specified by the plurality of
9 memory element descriptors; and
10 formatting the data into a buffer.
- 1 2. The method for gathering data from memory of a
2 computer system of Claim 1, wherein at least one
3 memory descriptor is descriptive of a list memory
4 type, including location information of a head of a
5 list and tag information for at least one data element
6 to be gathered from a node of the list.
- 1 3. The method for gathering data from memory of a
2 computer system of Claim 1, wherein at least one
3 memory descriptor is descriptive of a scalar memory
4 type.
- 1 4. The method for gathering data from memory of a
2 computer system of Claim 3, wherein at least one
3 memory descriptor is descriptive of a list memory
4 type, including location information of a head of a
5 list and tag information for at least one data element
6 to be gathered from a node of the list.

1 5. The method for gathering data from memory of a
2 computer system of Claim 3, wherein at least one
3 memory descriptor is a list memory descriptor,
4 including location information of a head of a first
5 list, location information of a head of a second list
6 in nodes of the first list, and tag information for at
7 least one data element to be gathered from nodes of
8 the second list.

1 6. A method for parsing a linked list to extract
2 data therefrom, the linked list stored in memory of a
3 computer system, comprising the steps of:

4 constructing a record list, the record list
5 comprising at least a first list element descriptor
6 descriptive of data to be retrieved from a first
7 linked list;

8 following a list head locator of the list element
9 descriptor to a head of the first linked list;

10 following links of the head of the first linked
11 list to a first node of the linked list;

12 interpreting at least one tag of the first list
13 element descriptor to locate data of the node; and

14 extracting data from the node.

1 7. The method of parsing a linked list of Claim 6,
2 wherein:

3 the record list further comprises a second list
4 element descriptor descriptive of data to be retrieved
5 from a second linked list, and wherein a node of the
6 first linked list contains a head of the second linked
7 list; and

8 the method further comprises the steps of:

9 following a list head locator of the second list
10 element descriptor to a second list head of the node
11 of the first linked list;

12 following links of the second list head to a node
13 of the second list;

14 interpreting at least one tag of the second list
15 element descriptor to locate data of the node of the
16 second list; and

17 extracting data from the node of the second list

1 8. The method of parsing a linked list of Claim 7,
2 further comprising the step of formatting the
3 extracted data into a capture buffer.

1 9. The method of parsing a linked list of Claim 7
2 further comprising the steps of
3 stopping execution of all threads executing on
4 the computer system except for a thread parsing the
5 list; and

6 resuming execution of all threads stopped during
7 the step of stopping execution;

8 wherein the step of stopping execution is
9 performed prior to the step of following links of the
10 head of the first linked list, and the step of
11 resuming execution is performed after the step of
12 extracting data from the node of the second list.

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20     wherein the collection driver further comprises
21     code for interpreting the input record list and
22     collecting operating system data into a capture buffer
23     specified by the input record list, and transmitting
24     the capture buffer to the user interface.

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1 15. The symbolic debugger of Claim 14, wherein the
2 collection driver is capable of interpreting a record
3 of the input record list that specifies information to
4 be gathered from multiple nodes of a linked list
5 having a list head located in a node of a parent list,
6 a list head of the parent list being specified by a
7 record of the input record list.

1 16. The symbolic debugger of Claim 14, wherein the
2 collection driver is capable of interpreting a record
3 of the input record list that specifies scalar
4 information to be gathered from designated locations
5 of the memory system.

1 17. The symbolic debugger of Claim 14, wherein the
2 collection driver further comprises a communications
3 interface capable of receiving the record list over a
4 network connection and comprises computer readable
5 code for reading the version information from the
6 operating system executing on the target machine.